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EXAMINER

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ART UNIT PAPER NUMBER

2874

DATE MAILED: 04/17/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/853,575

Applicant(s)

WANG ET AL.

Examiner

Michelle R. Connelly-Cushwa

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-5, 19, 20 and 43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 19, 20 and 43 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5, 8.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The prior art documents submitted by applicant in the Information Disclosure Statements filed on May 14, 2001 and March 1, 2002 have all been considered and made of record (note the attached copies of form PTO-1449).

### ***Drawings***

2. Twenty-five (25) sheets of formal drawings were filed October 24, 2001 and are approved by the Examiner.

### ***Specification***

3. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Double Patenting***

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

5. A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

6. Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

**7. Claims 1-5, 19, 20 and 43 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-40 of U.S. Patent No. 6,307,987 B1.**

8. Although the conflicting claims are not identical, they are not patentably distinct from each other because the optical luminescent display device defined in claims 1, 14, 20, 21 of U.S. Patent No. 6,307,987 B1 include at least all of the limitations of claims 1-5 and 19 of the present application (U.S. Patent Application No. 09/853,575); claim 34 of U.S. Patent No. 6,307,987 B1 includes at least all of the limitations of claim 20 of the present application (U.S. Patent Application No. 09/853,575); and claims 36 and 37 of U.S. Patent No. 6,307,987 B1 include at least all of the limitations of claim 43 of the present application (U.S. Patent Application No. 09/853,575).

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**10. Claims 1-5, 19, 20, and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crossland et al. (WO 95/27920) in view of Appeldorn et al. (U.S. Patent No. 5,659,643).**

11. Regarding claims 1-3, 19, and 20; Crossland et al. discloses all of the limitations of claims 1-3, 19, and 20, except for the display comprising an optical fiber. Figure 1A of Crossland et al. discloses a general layout of pixels in a display panel. Figures 6 and

7 of Crossland et al. disclose light guide arrangements that may be employed in the display panel. The arrangement in Figure 6 comprises a backing layer (17) that is transparent to light; a luminescent material (35); and a notch (85) formed in the backing layer and adapted to direct a first type of radiant energy within the backing layer toward the luminescent material. Figure 7 shows a radiant energy source (86) emitting radiant energy into the backing layer (17). The backing layer (17) disclosed by Crossland et al. is a light guide.

12. The backing layer disclosed by Crossland et al. is a light guide (see page 12, lines 31-34). Planar light-guiding substrates and cylindrical light-guiding substrates (i.e. optical fibers) both operate on the same principles of total internal reflection. They are functionally equivalent light guides having different shapes or forms. A person of ordinary skill in the art would have found it obvious to apply teachings directed to one light guide to another light guide, regardless of the specific shape. Thus, one of ordinary skill in the art would have recognized that any well known transparent waveguide, including an optical fiber or an array of optical fibers, could be used as a backing layer in the invention of Crossland et al.

13. Additionally, one of ordinary skill in the art would have recognized the benefit of using a side emitting waveguide with a notch formed in the surface to direct light toward a luminescent material for a display device, as disclosed by Crossland et al. Side-emitting optical fibers containing notches are well known in the art, for example, see Figure 1 of Appeldorn et al., which discloses an optical fiber (10) with a notch (12) formed in the fiber to cause the fiber to be side-emitting and Figures 4 and 6 of

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Appeldorn et al., which disclose side-emitting fiber arrays. One of ordinary skill in the art would have recognized that any well known light guide could be incorporated as a backing layer in the invention of Crossland et al. or that any well known side-emitting light guide having a notch, including an optical fiber or optical fiber array, could be used to direct light towards a luminescent material. Therefore, one of ordinary skill in the art at the time of the invention would have found it obvious to incorporate an array of side-emitting optical fibers, as taught by Appeldorn et al., as a backing layer in the invention of Crossland et al. or to use any side-emitting light guide, including a side-emitting optical fiber having a notch, to supply radiation to a luminescent material.

14. *Regarding claim 4*; Figure 6 of Crossland et al. discloses a reflective coating, 27, mounted on the backing layer, 17, transversally opposite from the notch, 85.

15. *Regarding claim 5*; Figure 6 of Crossland et al. discloses a phosphor-type luminescent material, 35, which requires excitement from a first type of radiant energy to emit visible light.

16. *Regarding claim 43*; the proposed combination of Crossland et al. and Appeldorn et al. teaches all of the limitations of claim 43 as applied to claims 1-3, 19, and 20 above, except for the device comprising an optical pickup for optical communication with the luminescent material. One of ordinary skill in the art would have recognized the advantages of incorporating an optical pickup in the invention of Crossland et al. to receive the light from the luminescent material. Therefore, one of ordinary skill in the art would have found it obvious to incorporate an optical pickup in the invention of Crossland et al. to receive the light from the luminescent material.


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**Conclusion**

17. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

18. Any inquiry concerning the merits of this communication should be directed to Examiner Michelle R. Connelly-Cushwa at telephone number (703) 305-5327. Any inquiry of a general or clerical nature (i.e. a request for a missing form or paper, etc.) should be directed to the Technology Center 2800 receptionist at telephone number (703) 308-0956 or to the technical support staff supervisor at telephone number (703) 308-3072.

Michelle R. Connelly-Cushwa  
**MRCC**  
April 10, 2002

  
Akm E. Ullah  
Primary Examiner